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UNITED STATES DEPARTMENT OF AGRICULTURE
Agricultural Research Administration
Bureau of Agricultural and Industrial Chemistry

QUARTERLY

NAVAL STORES REPORT
on
Production, Distribution, Consumption and Stocks
of
TURPENTINE AND ROSIN
of the
UNITED STATES
By Crop Years

Covering Quarter - October 1 - December 31, 1946

Issued February 12, 1947

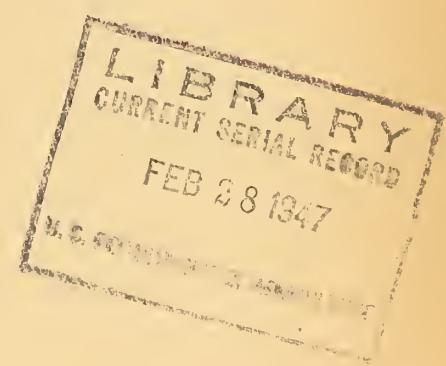
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Naval Stores Research Division



FOREWORD

In addition to its regular Annual and Semi-Annual Naval Stores Reports on production, consumption, and stocks of naval stores, the Naval Stores Research Division has, at the request of some of the War Agencies, undertaken the issuance of quarterly reports. These reports are issued under Federal Act 278, authorizing and directing the Secretary of Agriculture to collect, compile, and publish statistics and essential information relating to spirits of turpentine and rosin produced, held, and used in the domestic and foreign commerce of the United States.

If production figures for this period are used as a basis for estimating this crop year's probable production, the fact that gum naval stores production is seasonal should be borne in mind. Wood naval stores production, on the other hand, is not seasonal but is based largely upon probable consumer demand.

As in previous reports, carryover (stocks) of turpentine and rosin is separated into gum and wood products. Stocks of wood rosin do not include so-called "B wood resin." While sulphate wood turpentine is carried in the regular production and carryover tables, data on tall oil are in a table separate from gum and wood rosins. The term tall oil refers to the mixture of resin and fatty acids recovered by the acidification of the soap curds (black liquor soap) obtained in the production of sulphate pulp. The tall oil so obtained contains approximately 42 percent of resin acids.

The data on production, consumption, and stocks are expressed in commercial units: for turpentine - barrels of 50 gage gallons; and for rosin - drums of approximately 520 pounds net weight. A unit of naval stores consists of one barrel of turpentine and two and two-thirds drums of rosin. Carryover figures do not include gum turpentine or rosin producible from crude gum on hand.

Statistics on exports and imports of turpentine and rosin are now available and are included in this report.

These reports are designed to be of use to the industry — producer, processor, factor, distributor, and consumer. Every effort is made to obtain complete and accurate information but the completeness, accuracy, and promptness of issue depend upon the cooperation of those reporting. In accepting the statistics given in this report, as well as those in previous reports, it should be borne in mind that the Bureau of Agricultural and Industrial Chemistry merely assembles the figures from the individual reports received and is not responsible for their accuracy.

The Bureau of Agricultural and Industrial Chemistry extends its thanks to those producers, processors, factors, distributors, and consumers who have so kindly cooperated in furnishing the requested information. The assistance of Mrs. Clotilde H. Oubre in tabulating the data for this report is gratefully acknowledged.

SUMMARY OF TURPENTINE

SUPPLY, DISTRIBUTION AND CARRYOVER (Bbls. - 50 gals.)

(By naval stores crop years, beginning April 1 and ending March 31)

	1946-47			1945-46		
	3 mos. (Oct. - Dec.)			3 mos. (Oct. - Dec.)		
	Total	Gum	Wood	Total	Gum	Wood

TABLE 1a - SUPPLY AND DISTRIBUTION

U. S. Carryover October 1 ^{1/}	90,167	48,411	41,756	165,326	123,460	41,866
Production ^{2/}	143,055	68,001	75,054	121,099	60,580	60,519
Imports	<u>2,469</u>	<u>2,469</u>	---	<u>1,926</u>	<u>1,926</u>	---
Available Supply	235,691	118,881	116,810	288,351	185,966	102,385
Less Carryover December 31 ^{3/}	<u>101,295</u>	<u>52,678</u>	<u>48,617</u>	<u>150,098</u>	<u>105,517</u>	<u>44,581</u>
Apparent Total Consumption	134,396	66,203	68,193	138,253	80,449	57,804
Less Exports	<u>30,625</u>	<u>20,463</u>	<u>10,162</u>	<u>19,367</u>	<u>11,651</u>	<u>7,716</u>
Apparent U. S. Consumption	103,771	45,740	58,031	118,886	68,798	50,088

TABLE 2a - CARRYOVER (Stocks)

U. S. Carryover October 1	90,167	48,411	41,756	165,326	123,460	41,866
U. S. Carryover December 31	<u>101,295</u>	<u>52,678</u>	<u>48,617</u>	<u>150,098</u>	<u>105,517</u>	<u>44,581</u>
Increase	11,128	4,267	6,861	---	---	2,715
Decrease	---	---	---	15,228	17,943	---

^{1/} From Table 4a, 1946-47 Semi-Annual Naval Stores Report.

^{2/} Table 5a.

^{3/} Table 4a.

SUMMARY OF ROSIN

SUPPLY, DISTRIBUTION AND CARRYOVER (Drums - 520 lbs. net)
(By naval stores crop years, beginning April 1 and ending March 31)

	<u>1946-47</u>			<u>1945-46</u>		
	<u>3 mos.</u>	<u>(Oct. - Dec.)</u>		<u>3 mos.</u>	<u>(Oct. - Dec.)</u>	
	<u>Total</u>	<u>Gum</u>	<u>Wood</u>	<u>Total</u>	<u>Gum</u>	<u>Wood</u>

TABLE 1b - SUPPLY AND DISTRIBUTION

U. S. Carryover						
October 1 ^{1/}	390,781	276,494	114,287	468,268	325,937	142,331
Production ^{2/}	462,007	209,356	252,651	375,501	186,057	189,444
Imports	0	0	0	469	469	---
Available Supply	852,788	485,850	366,938	844,238	512,463	331,775
Less Carryover						
December 31 ^{3/}	398,102	264,637	133,465	469,594	310,545	159,049
Apparent Total						
Consumption	454,686	221,213	233,473	374,644	201,918	172,726
Less Exports	106,054	63,411	37,643	56,813	28,186	28,627
Apparent U. S.						
Consumption	348,632	152,802	195,830	317,831	173,732	144,099

TABLE 2b - CARRYOVER (Stocks)

U. S. Carryover						
October 1	390,781	276,494	114,287	468,268	325,937	142,331
U. S. Carryover						
December 31	398,102	264,637	133,465	469,594	310,545	159,049
Increase	7,321	---	19,178	1,326	---	16,718
Decrease	---	11,857	---	---	15,392	---

^{1/} From Table 4b, 1946-47 Semi-Annual Naval Stores Report.

^{2/} Table 5b. Includes reclaimed rosin.

^{3/} Table 4b.

DETAILS AND SUMMARY OF TURPENTINE CARRYOVER (Bbls. - 50 gals.)

	1946			1945		
	<u>December 31</u>			<u>December 31</u>		
	<u>Total</u>	<u>Gum</u>	<u>Wood</u>	<u>Total</u>	<u>Gum</u>	<u>Wood</u>
<u>Production Points^{1/}</u>						
Gum Stills ^{2/}	15,573	15,573	---	22,796	22,796	---
Wood Plants						
Steam Dist.	10,404	---	10,404	9,284	---	9,284
Sulphate	12,660	---	12,660	6,650	---	6,650
Dist. Dist.	258	---	258	273	---	273
Total	38,895	15,573	23,322	39,003	22,796	16,207
<u>Sou. Concent. Points^{1/}</u>	12,442	12,442	---	50,917	50,917	---
<u>Distribution Points</u>						
Eastern	12,331	7,865	4,466	10,382	7,199	3,183
Central	13,731	9,182	4,549	20,897	15,034	5,863
Western	3,513	2,598	915	4,511	3,191	1,320
Total ^{3/}	29,575	19,645	9,930	35,790	25,424	10,366
<u>Industrial Plants^{4/}</u>	20,383	5,018	15,365	24,388	6,380	18,008

TABLE 4a - SUMMARY OF TURPENTINE CARRYOVER (Stocks)

Production Points	38,895	15,573	23,322	39,003	22,796	16,207
Sou. Concent. Points	12,442	12,442	---	50,917	50,917	---
Distribution Points	29,575	19,645	9,930	35,790	25,424	10,366
Industrial Plants	20,383	5,018	15,365	24,388	6,380	18,008
Total in U. S.	101,295	52,678	48,617	150,098	105,517	44,581

^{1/} Irrespective of ownership. Some of the turpentine may have been sold and may be awaiting shipment.

^{2/} Compiled from reports by producers, processors, and factors.

^{3/} Compiled from reports of individual distributors.

^{4/} Compiled from reports of individual consumers.

DETAILS AND SUMMARY OF ROSIN CARRYOVER (Drums - 520 lbs. net)1946
December 311945
December 31Total Gum Wood Total Gum WoodTABLE 3b - DETAILS OF ROSIN CARRYOVER (Stocks)Production Points^{1/}

Gum Stills ^{2/}	94,897	94,897	---	101,341	101,341	---
Wood Plants						
Steam Dist. ^{3/}	40,640	---	40,640	75,348	---	75,348
Sulphate	---	---	---	---	---	---
Dest. Dist.	---	---	---	---	---	---
Total	135,537	94,897	40,640	176,689	101,341	75,348

Sou. Concent. Points^{1/}

Sou. Concent. Points ^{1/}	22,965	22,965	---	26,979	26,979	---
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Distribution Points

Eastern	12,260	8,317	3,543	8,682	5,279	3,403
Central	6,322	4,733	1,589	6,622	3,341	3,281
Western	906	319	587	487	328	159
Total ^{4/}	19,488	13,769	5,719	15,791	8,948	6,843

Industrial Plants^{5/}

Industrial Plants ^{5/}	220,112	133,006	87,106	250,135	173,277	76,858
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TABLE 4b - SUMMARY OF ROSIN CARRYOVER (Stocks)

Production Points	135,537	94,897	40,640	176,689	101,341	75,348
Sou. Concent. Points	22,965	22,965	---	26,979	26,979	---
Distribution Points	19,488	13,769	5,719	15,791	8,948	6,843
Industrial Plants	220,112	133,006	87,106	250,135	173,277	76,858
Total in U. S.	398,102	264,637	133,465	469,594	310,545	159,049

1/ Irrespective of ownership. Some of the rosin may have been sold and may be awaiting shipment.

2/ Compiled from reports by producers, processors, and factors. Includes reclaimed rosin.

3/ Does not include by-products, such as "B wood resin," resulting from making paler grades from FF wood resin.

4/ Compiled from reports of individual distributors.

5/ Compiled from reports of individual consumers.

DETAILS OF PRODUCTION
(By naval stores crop years, beginning April 1 and ending March 31)

	1946-47 3 mos. (Oct. - Dec.)		1945-46 3 mos. (Oct. - Dec.)
	<u>Total</u>	<u>Gum</u>	<u>Wood</u>
	<u>Total</u>	<u>Gum</u>	<u>Wood</u>

TABLE 5a - PRODUCTION OF TURPENTINE (Bbls. - 50 gals.)

Gum	68,001	68,001	---	60,580	60,580	---
Wood						
Steam Dist.	41,864	---	41,864	32,774	---	32,774
Sulphate	32,119	---	32,119	26,754	---	26,754
Dest. Dist.	<u>1,071</u>	<u>---</u>	<u>1,071</u>	<u>991</u>	<u>---</u>	<u>991</u>
Total	143,055	68,001	75,054	121,099	60,580	60,519

TABLE 5b - PRODUCTION OF ROSIN (Drums 520 lbs. net)

Gum	207,314	207,314	---	184,776	184,776	---
Reclaimed gum	2,042	2,042	---	1,281	1,281	---
Wood						
Steam Dist.	252,651 ^{1/}	---	252,651 ^{1/}	189,444	---	189,444
Sulphate	---	---	---	---	---	---
Dest. Dist.	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>
Total	462,007	209,356	252,651 ^{1/}	375,501	186,057	189,444

TABLE 5c - PRODUCTION OF BLACK LIQUOR SOAP AND TALL OIL^{2/}

	1946-47 3 mos. (Oct. - Dec.)	1945-46 3 mos. (Oct. - Dec.)
Black Liquor Soap Reported as produced	62,596 tons	50,487 tons
Black Liquor Soap Reported as acidified	56,570 tons	49,183 tons
To produce according to reports Crude Tall Oil	27,566 tons	25,813 tons

^{1/} This figure now represents the total primary production of FF wood rosin. Much of this is refined to produce pale grades with concomitant production of "B wood resin" as a by-product.

^{2/} See foreword for definition.

TABLE 6 - PRODUCTION OF GUM TURPENTINE BY STATES^{1/}

	<u>1946-47</u> <u>3 mos. (Oct. - Dec.)</u>		<u>1945-46</u> <u>3 mos. (Oct. - Dec.)</u>	
	<u>Barrels</u>	<u>Percentage</u>	<u>Barrels</u>	
Georgia	48,074	70.70	42,686	70.46
Florida	15,964	23.48	12,625	20.84
Alabama	2,690	3.95	3,699	6.11
Mississippi	788	1.16	910	1.50
South Carolina	227	0.33	415	0.69
Louisiana	258	0.38	245	0.40
Total	68,001	100.00	60,580	100.00

TABLE 7 - MISCELLANEOUS NAVAL STORES (Bbls. - 50 gals.)

	<u>1946-47</u> <u>3 mos. (Oct. - Dec.)</u>	<u>1946</u> <u>Dec. 31</u>	<u>1945-46</u> <u>3 mos. (Oct. - Dec.)</u>	<u>1945</u> <u>Dec. 31</u>
	<u>Production</u>	<u>Stocks</u>	<u>Production</u>	<u>Stocks</u>
Pine Oil	33,704	12,751	27,887	12,637
Pine Tar	24,218	1,538	18,911	3,121
Rosin Oil	5,151	1,578	2,904	2,631
Dipentene	8,050	3,896	4,916	2,063
Other Monocyclic Hydrocarbons	10,902	7,618	8,578	6,339

^{1/} A unit of naval stores consists of one 50-gallon barrel of turpentine and two and two-thirds drums (each 520 lbs. net) of rosin.

TABLE Sa - REPORTED CONSUMPTION OF TURPENTINE IN UNITED STATES (Bbls. - 50 gals.)
(By naval stores crop years, beginning April 1 and ending March 31)

	1946-47			1945-46		
	<u>3 mos.</u>	<u>(Oct. - Dec.)</u>	<u>Total</u>	<u>3 mos.</u>	<u>(Oct. - Dec.)</u>	<u>Total</u>
	<u>Gum^{1/}</u>	<u>Wood^{1/}</u>		<u>Gum^{1/}</u>	<u>Wood^{1/}</u>	
Abattoirs	0			0		
Adhesives & plastics	61			52		
Asphaltic products	0			0		
Automobiles & wagons	11			29		
Chemicals & pharmaceuticals	23,401			27,647		
Ester gum & synthetic resins	2,783			4,593		
Foundries & foundry supplies	193			155		
Furniture	42			49		
Insecticides & disinfectants	4			4		
Linoleum & floor covering	0			12		
Matches	0			0		
Oils & greases	6			3		
Paint, varnish & lacquer	3,630			4,547		
Paper & paper size	0			0		
Printing ink	43			53		
Railroads & shipyards	1,594			1,753		
Rubber	141			52		
Shoe polish & shoe materials	2,474			3,135		
Soap	0			0		
Other industries	47			66		
Total industrial reported	34,435	6,005	28,430	42,150	8,200	33,950
Not accounted for ^{2/}	69,336	39,735	29,601	76,736	60,598	16,138
Apparent U. S. consumption ^{3/}	103,771	45,740	58,031	118,886	68,798	50,088

^{1/} Separation of gum and wood turpentine consumption will be limited for the present to the total reported.
^{2/} Principally unreported distribution of turpentine through retailers who sell in small quantities to ultimate consumers.
^{3/} From Table 1a, page 1.

TABLE 8b - REPORTED CONSUMPTION OF ROSIN IN UNITED STATES (Drums - 520 lbs. net)
(By naval stores crop years, beginning April 1 and ending March 31)

	1946-47			1945-46				
	3 mos. (Oct. - Dec.)	Total	Gum ^{1/}	Wood ^{1/}	3 mos. (Oct. - Dec.)	Total	Gum ^{1/}	Wood ^{1/}
Abattoirs		170				113		
Adhesives & plastics		5,410				4,719		
Asphaltic products		388				162		
Automobiles & wagons		73				39		
Chemicals & pharmaceuticals	90,178 ^{2/}					65,691 ^{2/}		
Ester gum & synthetic resins	64,154					63,314		
Foundries & foundry supplies	3,744					3,276		
Furniture	1					0		
Insecticides & disinfectants	1,268					1,097		
Linoleum & floor covering	5,349					2,943		
Matches	446					286		
Oils & greases	4,750					5,605		
Paint, varnish & lacquer	27,376					24,757		
Paper & paper size	90,882					67,945		
Printing ink	2,595					2,010		
Railroads & shipyards	1,134					2,586		
Rubber	7,761					3,460		
Shoe polish & shoe materials	1,254					1,272		
Soap	40,238					30,394		
Other industries	1,338					900		
Total industrial reported	348,509 ^{2/}	152,412	196,097 ^{2/}		280,569 ^{2/}	129,436	151,133 ^{2/}	
Not accounted for ^{3/}		123	390	-267	37,262	44,296	-7,034	
Apparent U. S. consumption ^{4/}	348,632	152,802	195,830		317,831	173,732	144,099	

1/ Separation of gum and wood rosin consumption will be limited for the present to the total reported. The breakdown shown is an approximation.

2/ Includes, as rosin consumed, the "B wood resin" produced in refining FF wood rosin to paler grades. No data are reported on the consumption of "B wood resin" as such.

3/ The discrepancy between the total industrial consumption reported and the apparent U. S. consumption is due partly to unreported industrial consumption and partly to failure of some consumers to distinguish in their reports between gum rosin, wood rosin, and modified or derived rosins.

4/ From Table 1b, page 2.

ADDENDA

Additional information pertaining to naval stores may be obtained, as follows:

For periods prior to 1942, for monthly, quarterly and annual reports on imports and exports of turpentine and rosin, address: Foreign Trade Statistics, Bureau of the Census, Department of Commerce, Washington, D. C. Price ten cents per copy.

For biennial census of the production of turpentine and rosin, address: Bureau of the Census, Department of Commerce, Washington, D. C.

For information on the Naval Stores Conservation Program, write to the Regional Forester, U. S. Forest Service, Glenn Building, Atlanta 3, Georgia.

For information on the southern forest survey showing turpentine timber resources, address: Southern Forest Experiment Station, Box 7295, Midcity Station, New Orleans 19, Louisiana.

For information regarding the production, distribution, consumption and stocks of turpentine and rosin, address: Naval Stores Research Division, Bureau of Agricultural and Industrial Chemistry, 2100 Robert E. Lee Boulevard, New Orleans 19, Louisiana.